

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

Applicants: Schaper et al.

Attorney Docket No. ACUT-1-1002

Serial No. 10/788,814

Group Art Unit: 2125

Filing Date: February 27, 2004

Examiner: Shechtman, Sean P.

Title: GENERATOR CONTROLLER

Confirmation No. 7852

RESPONSE TO FINAL OFFICE ACTION

TO COMMISSIONER FOR PATENTS:

AMENDMENT AND RESPONSE

Amendments to the Claims begin on page 2 of this paper.

Remarks begin on page 6 of this paper.

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ACUT-1-1002RPOA

BLACK LOWE & GRAHAM ^{PLLC}



701 Fifth Avenue, Suite 4800
Seattle, Washington 98104
206.381.3300 • F: 206.381.3301

Amendments to the Claims:

1-70. (Canceled)

71. (New) A generator controller, comprising:

a processor;

a first input configured to receive signals from a generator;

an output configured to send signals to the generator;

a second input configured to receive signals from a plurality of operating condition sources;

a memory accessible by the processor, the memory containing stored programming instructions operable by the processor to control an operation of the generator and to inhibit operation of the generator if a signal representative of an undesirable condition is received from at least one of the plurality of operating condition sources, the programming instructions further causing the processor to switch the controller to a manual mode of operation when a signal representative of an undesirable condition is received, whereby in the manual mode of operation the generator is operable under manual control;

the stored programming further enabling the processor to decode electronic indicators produced by the generator; and

a display configured to present text messages related to the electronic indicators.

72. (New) The generator controller of claim 71, further comprising a stop input in communication with the processor, whereby in response to a selection of the stop input by a user the controller allows the operation of the generator even if a signal representative of an undesirable condition is received from at least a selected one of the plurality of operating condition sources.

73. (New) The generator controller of claim 71, wherein the selected one of the operating condition sources comprises a gas detector.

74. (New) The generator controller of claim 71, wherein the selected one of the operating condition sources comprises a parking brake.

75. (New) The generator controller of claim 71, wherein the selected one of the operating condition sources comprises a vehicle ignition and wherein the undesirable condition comprises the ignition being switched to an on position.

76. (New) The generator controller of claim 71, wherein the selected one of the operating condition sources comprises a building presence detector and wherein the undesirable condition comprises the presence of a building adjacent to a vehicle to which the generator is connected.

77. (New) The generator controller of claim 71, wherein the selected one of the operating condition sources comprises an external alternating current source, and wherein the undesirable condition comprises the presence of power available at the external alternating current source.

78. (New) The generator controller of claim 71, wherein the plurality of operating condition sources comprises a parking brake, a transmission neutral switch, and an ignition switch.

79. (New) A generator controller, comprising:
an output configured to send signals to a generator;
a first input configured to receive signals from a plurality of operating condition sources;
and

a control component in communication with the output and the first input, the control component having a manual mode and an automatic mode and being configured to automatically inhibit operation of the generator if a signal representative of an undesirable condition is received from at least one of a first subset of the plurality of operating condition sources, the control component further being configured to switch to the manual mode when a signal representative of an undesirable condition is received from at least one of a second subset of the plurality of



operating condition sources, whereby in the manual mode the generator is operable under manual control.

80. (New) The generator controller of claim 79, further comprising:
a second input configured to receive signals from the generator;
a decoding component in communication with the second input, the decoding component being configured to decode electronic indicators produced by the generator; and
a display configured to present text messages related to the electronic indicators.

81. (New) The generator controller of claim 79, wherein one of the first subset of operating condition sources comprises a gas detector.

82. (New) The generator controller of claim 79, wherein the one of the second subset of operating condition sources comprises a parking brake.

83. (New) The generator controller of claim 79, wherein one of the second subset of operating condition sources comprises a vehicle ignition and wherein the undesirable condition comprises the ignition being switched to an on position.

84. (New) The generator controller of claim 79, wherein the first subset of operating condition sources comprises a building presence detector and wherein the undesirable condition comprises the presence of a building adjacent to a vehicle to which the generator is connected.

85. (New) The generator controller of claim 79, wherein the first subset of operating condition sources comprises an external alternating current source, and wherein the undesirable condition comprises the presence of power available at the external alternating current source.

86. (New) The generator controller of claim 79, wherein second subset of operating condition sources comprises a parking brake, a transmission neutral switch, and an ignition switch.

87. (New) A generator controller, comprising:
an output configured to send signals to a generator;



a first input configured to receive signals from a plurality of operating condition sources;
a second input operable by a user to enable the user to select one of a plurality of controller modes of operation; and

a control component controlling the operation of the generator controller in accordance with the selected one of the plurality of controller modes of operation, the control component being in communication with the output and the first input, the control component having a manual mode and an automatic mode and, in accordance with the selected one of the plurality of controller modes of operation, being configured to automatically inhibit operation of the generator if a signal representative of an undesirable condition is received from at least one of a first subset of the plurality of operating condition sources, the control component further being configured to switch to the manual mode when a signal representative of an undesirable condition is received from at least one of a second subset of the plurality of operating condition sources, whereby in the manual mode the generator is operable under manual control.

88. (New) The generator controller of claim 87, further comprising:

a third input configured to receive signals from the generator;
a decoding component in communication with the third input, the decoding component being configured to decode electronic indicators produced by the generator; and
a display configured to present text messages related to the electronic indicators.

89. (New) The generator controller of claim 87, wherein one of the first subset of operating condition sources comprises a gas detector.

90. (New) The generator controller of claim 87, wherein second subset of operating condition sources comprises a parking brake, a transmission neutral switch, and an ignition switch.

REMARKS

Claims 1-70 have been canceled. In this response, new claims 71-90 are submitted.

New claim 70 requires the ability to “control an operation of the generator and to inhibit operation of the generator if a signal representative of an undesirable condition is received from at least one of the plurality of operating condition sources,” and also the automated ability “to switch the controller to a manual mode of operation when a signal representative of an undesirable condition is received, whereby in the manual mode of operation the generator is operable under manual control.” The prior art of record does not teach these limitations. To the contrary, the cited art is of the type provided by Yamaguchi et al., Patent No. 5,823,281, for a generator used with a hybrid vehicle. There is no need, motivation, or purpose for such an automated switch between manual and automatic modes of control in generators in such vehicles. Likewise, the applicants are not aware of any art of record teaching these limitations.

Claim 79 recites a “control component” which may be, for example, a microprocessor operating programming instructions. This claim further provides that the control component is “configured to switch to the manual mode when a signal representative of an undesirable condition is received from at least one of a second subset of the plurality of operating condition sources, whereby in the manual mode the generator is operable under manual control.” Thus, as claimed, the controller automatically switches from an automatic to a manual mode. Moreover, in the manual mode the generator may operate despite the presence of the undesirable condition. As far as the inventors are aware, the generator controllers of record cannot switch in this fashion and have no reason to be designed that way.

Claim 87 is also new, and relates to the user’s ability to configure the nature of the operation of the controller. As claimed, it provides (among other things) “a second input operable by a user to enable the user to select one of a plurality of controller modes of operation” and “a control component controlling the operation of the generator controller in accordance with the selected one of the plurality of controller modes of operation.” Thus, for example, a

user can choose a mode of operation that defines which of the operating parameters will trigger a switch from the automatic mode to the manual mode, or which parameters will instruct the controller to cause the generator not to operate. These features again are not provided in the prior art of record, which appears to be related to dedicated controllers for specific generators. The operating modes for hybrid vehicles and fuel cells are preset and cannot be modified by a user.

One of the useful features of the generator controller of the present application is that it can be used with a variety of different generators. Upon connecting it to a generator, a user can set it up in a tailored way to match it with the generator being used. That allows a great deal of flexibility, and enables the operation of the controller to vary depending on the desires of the user or the nature of the generator. As claimed above, especially with respect to claim 87, the user can specify a particular mode of operation and the controller controls the operation of the generator in accordance with that user-selected mode of operation. The dedicated controllers in use with fuel cells and hybrid vehicles do not teach this feature, and indeed there is no reason or motivation for them to do so. The controller in a hybrid vehicle, for example, is built in and not intended to be used with a different hybrid vehicle for which the controller may need to operate differently or for which the user may want to specify different parameters.

For the foregoing reasons, the applicants submit that the pending claims are allowable over the prior art.

CONCLUSION

The applicants respectfully request consideration and allowance of claims 71-90.

Respectfully submitted,

BLACK LOWE & GRAHAM^{PLLC}



Lawrence D. Graham
Registration No. 40,001
Direct Dial: 206.381.3304

May 4, 2007

DATED


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CUSTOMER NUMBER

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ACUT-1-1002RFOA

BLACK LOWE & GRAHAM^{PAC}



701 Fifth Avenue, Suite 4800
Seattle, Washington 98104
206.381.3300 • F: 206.381.3301